network device, the computer program product comprising computer program instructions that when executed by the computer direct the computer to perform a method of directing the network communications, the method comprising:

assigning a group identifier to each port of the plurality of ports, wherein all ports with a same assigned group identifier are in a same group;

receiving a communication on a first port of the network device;

sending the communication out of the network device on all of the ports of the network having the same assigned group identifier as the first port;

identifying a source of the communication received on the first port of the network device;

maintaining an association of the identified source with the assigned group identifier of the first port;

identifying a destination of the communication;

determining a group identifier assigned to the destination; and

if the group identifier assigns to the destination and the group identifier assigned to the source are different, sending the communication out a client port not within the first plurality of ports, indicating the group identifier of the first port within the communication sent out the client port and replacing a redundant field within the communication with the group identifier.

REMARKS

In response to the Office Action mailed November 30, 2001, Applicants respectfully request reconsideration.

Claims 21-40 have been examined. By this amendment, Applicants cancel claims 24 and 39 without prejudice or disclaimer, and amend claims 21, 23, 25, 30, 32, 36-38 and 40 as illustrated in the document enclosed herewith titled "Marked-Up Claims."

MARKED-UP CLAIMS

21. A method of operating a network bridge having a first plurality of ports through which network communications pass to and from the bridge, the method comprising:

assigning a group identifier to each port of the plurality of ports, wherein all ports with a same assigned group identifier are in a same group;

receiving a communication on a first port of the bridge; and

sending the communication out of the bridge on all other ports of the bridge having the same assigned group identifier as the first port,

wherein the communication is a multicast packet having a multicast destination address.

23. The method of claim 22, further comprising:

identifying a destination of the communication[:];

determining a group identifier assigned to the destination; and

[when] if the group identifier assigned to the destination and the group identifier assigned to the source are different, sending the communication out a client port not within the first plurality of ports.

25. The method of claim 21, wherein the bridge includes a client port not within the first plurality of ports, the method comprising:

receiving [a] the multicast packet on the client port;

identifying a group identifier within the multicast packet; and

sending the multicast packet out on those ports having the same group identifier as the group identifier within the received multicast packet.

30. [The method of claim 23, further] A method of operating a network bridge having a first plurality of ports through which network communications pass to and from the bridge, the method comprising:

assigning a group identifier to each port of the plurality of ports, wherein all ports with a same assigned group identifier are in a same group;

receiving a communication on a first port of the bridge;

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sending the communication out of the bridge on all other ports of the bridge having the same assigned group identifier as the first port;

identifying a source of the communication received on the first port of the bridge;

maintaining an association of the identified source with the assigned group identifier of the first port;

identifying a destination of the communication;

determining a group identifier assigned to the destination; and

if the group identifier assigned to the destination and the group identifier assigned to the source are different, sending the communication out a client port not within the first plurality of ports and indicating the group identifier [on] assigned to the first port within the communication sent out the client port.

32. [The method of claim 23, further] A method of operating a network bridge having a first plurality of ports through which network communications pass to and from the bridge, the method comprising:

assigning a group identifier to each port of the plurality of ports, wherein all ports with a same assigned group identifier are in a same group;

connecting a router to [the] a client port of the bridge not within the first plurality of ports[:];

identifying the ports on the router connected to the network bridge; [and]

defining, on the router, a correspondence between the identified ports connected to the network bridge and each distinct group identifier;

receiving a communication on a first port of the bridge;

sending the communication out of the bridge on all other ports of the bridge having the same assigned group identifier as the first port;

identifying a source of the communication received on the first port of the bridge;

maintaining an association of the identified source with the assigned group identifier of the first port;

identifying a destination of the communication;

determining a group identifier assigned to the destination; and

if the group identifier assigned to the destination and the group identifier assigned to the source are different, sending the communication out the client port.

36. A computer program product for use with a network device having a computer and a first plurality of ports on which network communications pass to and from the network device, wherein the network device includes a client port not within the first plurality of ports, and the computer program product [comprising] comprises computer program instructions that when executed by the computer direct the computer to perform a method of directing the network communications, the method comprising:

assigning a group identifier to each port of the plurality of ports, wherein all ports with a same assigned group identifier are in a same group;

receiving a communication on a first port of the network device; [and]

sending the communication out of the network device on all other ports of the network device having the same assigned group identifier as the first port;

receiving a multicast packet having a multicast destination address on the client port;

identifying a group identifier within the multicast packet; and

sending the multicast packet out on those ports having the same group identifier as the group identifier within the received multicast packet,

wherein the group identifier is removed from the multicast packet before sending the multicast packet out from the network device.

37. The computer program product of claim 36, wherein the method further comprises [comprising]:

identifying a source of the communication received on the first port of the network device; and

maintaining an association of the identified source with the assigned group identifier of the first port.

38. The computer program product of claim 37, wherein the method further comprises [comprising]:

identifying a destination of the communication;

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determining a group identifier assigned to the destination; and

if the [when a] group identifier assigned to the destination and [the] a group identifier assigned to the source are different, sending the communication out a client port not within the first plurality of ports.

40. [The computer program product of claim 38, wherein the method further comprises:]A computer program product for use with a network device having a computer and a first plurality of ports on which network communications pass to and from the network device, the computer program product comprising computer program instructions that when executed by the computer direct the computer to perform a method of directing the network communications, the method comprising:

assigning a group identifier to each port of the plurality of ports, wherein all ports with a same assigned group identifier are in a same group;

receiving a communication on a first port of the network device;

sending the communication out of the network device on all of the ports of the network having the same assigned group identifier as the first port;

identifying a source of the communication received on the first port of the network device;

maintaining an association of the identified source with the assigned group identifier of the first port;

identifying a destination of the communication;

determining a group identifier assigned to the destination; and

if the group identifier assigns to the destination and the group identifier assigned to the source are different, sending the communication out a client port not within the first plurality of ports, indicating the group identifier of the first port within the communication sent out the client port[;] and replacing a redundant field within the communication with the group identifier.